

RALPH LIPSEY BARNETT

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PERSONAL

Birth July 15, 1933, Chicago, IL
Marital Status Married, two (2) children

EDUCATION

1. Hyde Park High School, Chicago, IL, June 1951
2. BSCE, Illinois Institute of Technology, June 1955 (Dean's List)
3. MS Mechanics, Illinois Institute of Technology, January 1958
4. Completed coursework for Doctorate in Mechanics at IIT, June 1968

HONORS

1. Collingwood Prize, American Society Civil Engineers, 1960, "Prestressed Truss Beams"
2. Prize Paper, American Society of Mechanical Engineers, (ASME), Chicago Section, 1962, "On the Lifting Capacity of Crane Booms"
3. Ceco Steel Scholarship
4. Armour Research Foundation Research Fellowship
5. Who's Who in the Midwest
6. Who's Who in America
7. Who's Who in the World
8. Who's Who in Science and Engineering
9. Anti-Hair Snare Plus™ Pool and Spa Safety Drain Cover (Barnett Patent # 6,088,842) named one of the Top 25 Products of 2001 by Pool and Spa News
10. Leonardo da Vinci Award (Interlock Inventions) ASME, September 11, 2001
11. Anti-Hair Snare Plus™ Pool and Spa Safety Drain Cover (Poczynok Design Patent # US D439,957 S) named as one of the readers' choice top 50 products of 2003 by Pool and Spa News
12. International Ergonomics Association/Journal of Occupational Safety and Ergonomics, (IEA/JOSE) Best Paper Award for 2000-2002 for "'Slip and Fall' Theory-Extreme Order Statistics"

HONORARY SOCIETIES

Chi Epsilon.....	Civil Engineering Honorary
Pi Tau Sigma.....	
Tau Beta Pi.....	Engineering Honorary
Sigma Xi	Research Honorary

Mech

PROFESSIONAL SOCIETIES

American Academy of Mechanics
 American Society of Civil Engineers (Life Member)
 American Society of Mechanical Engineers (Life Member)
 American Concrete Institute
 American Society of Safety Engineers
 National Safety Council
 Graphic Arts Technical Foundation
 American Society for Metals
 American Society of Agricultural Engineers
 American National Standards Institute
 American Society for Engineering Education
 American Association of University Professors
 American Society for Testing and Materials
 National Fire Protection Association
 Human Factors and Ergonomics Society
 American Gear Manufacturers Association, 1971 - 1998
 National Drilling Contractors Association, 1980 - 1998
 American Institute of Aeronautics and Astronautics

PROFESSIONAL ACTIVITIES

1. National Academy of Sciences/National Materials Advisory Board; Committee Member, Ceramic Processing
2. ASCE, Control Group Member, Properties of Selected Structural Plastics and Systems
3. ASME, Official Discussor; Materials and Fabrication Committee, Pressure Vessels and Piping Division
4. NIOSH, Panelist, Prevention of Severe Occupational Traumatic Injuries; National Symposium on the Prevention of Leading Work-Related Diseases and Injuries.
5. ASSE, Advisor to Staff, Board, and Committee Chairman

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6. ASTM, Member, E-34.80 Sub-Committee on Safety Analysis for Products, Facilities and Equipment.
7. Technical Secretariat, ANSI A14 Ladder Safety Committee.

OTHER ACTIVITIES

Board Member, 132 East Delaware Condominium Association, Chicago, Illinois;
Chairman of the Engineering Committee, 1996 - 2000.

PRE-COLLEGE EXPERIENCE

1. Employer: **BECKER'S PRESCRIPTION LABORATORY**
Business: Pharmacy
Position: **Apprentice Pharmacist**
Supervisor: Morris Becker, RPh
Duration: June 1944 to February 1949
Duties: Assist Pharmacists
2. Employer: **SCHWARTZ BROTHERS APPLIANCE**
Business: Retail Television, Appliances, and Hi-Fi
Position: **Salesman and Assistant Manager**
Supervisor: Theodore Schwartz
Duration: February 1949 to June 1955
Duties: 1. Sales-Television, Hi-Fi, and Appliances
2. Credit
3. Bookkeeping
4. Service
3. Employer: **FRANK'S SHOES**
Business: Retail Women's & Children's Shoes
Position: **Part-time Salesman**
Supervisor: Stanley Schwartz
Duration: September 1951 to December 1953
Duties: Salesman

POST-GRADUATE EXPERIENCE

1. Employer: **ARMOUR RESEARCH FOUNDATION, Chicago IL**
Business: Contract Research
Position: **Associate Research Engineer-Structural Mechanics**
Supervisor: Raymond W. Sauer
Duration: July 1955 to May 1960

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Experience: Project Engineer - Prime Contracts

1. Lightweight and Prestressed Rocket Launchers
2. Blast-resistant Tunnel Closures
3. Lightweight Radar Van Design
4. Design of Blast Shelter Entrance Systems
5. Minimum Cost Blast Shelter Design

Consultant - Subcontracts

1. Telescoping Passenger Bridge for Airport Traffic
2. Ultra-accuracy Velocity Measurement System for Rocket Sleds
3. Minimum Weight Design of Cannon Trails
4. Vulnerability of Shipyard Structures
5. High Performance Extruder
6. Nike Launching Platform-Hydraulics
7. Prestressed/Segmented Cane for Sightless
8. Minimum Weight Foxhole Covers

2. Employer: **ILLINOIS INSTITUTE OF TECHNOLOGY, Chicago IL**

Position: **Evening Instructor in Civil Engineering Department**

Director: Professor E.I. Feisenheiser, Chairman, C.E.Department

Duration: 1955 to 1967

Duties: Teach Materials Engineering and direct the
Materials Testing Laboratory in the Evening Division

3. Employer: **STANRAY CORPORATION, Chicago IL**

Business: Manufacturer of Railway Equipment, FRP Boats,
Precision Machine Parts, Aircraft Ground Facilities and Engineered
Plastic Products, Fabricator of Structural Steel and Aluminum Highway
Bridges

Position: **Structural Research Engineer - Research and Development
Department**

Duration: May 1960 to March 1962

Supervisor: Dr. S.J. Fraenkel, Director, Research and Development

Experience: Project Engineer

1. Design of Off-Highway Truck Bodies
2. Impact Resistance of Freight Car Bulkheads
3. Minimum Cost Girder Design
4. Design of Hyperbolic Paraboloid Shells for Drive-In Roofs
5. Minimum Weight and Cost Design of Corrugated Plates
6. Design of Plastic Composite Structures
7. Impact Resistance of FRP Laminates
8. FRP Silo Design Consultant

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9. Vulnerability of Nuclear Fuel Element Casks
10. Design and Erection of Grain Storage Bins
11. Aluminum Hyperbolic Paraboloid Forming
12. Blast Fence Design for Jet Aircraft
13. Design of Barge Covers
14. Septic Tank Design
15. Design of FRP Tractor Cabs
16. Analysis and Design of FRP Boats
17. Design of Railroad Wheel Grinding Machine
18. Design of Lightweight Prefabricated Aluminum Highway Bridges
19. Hydraulic Truck Body Transfer System
20. Truck Loading: Load/Unload Systems

4. Employer: **IIT RESEARCH INSTITUTE, Chicago, IL**
 Business: Contract Research/Industry and Government
 Position: **Senior Research Engineer and Group Leader**
 Director: Dr. Eugene Sevin-Director, Mechanics Research Division
 Duration: March 1962 to September 1968
 Experience: Project Engineer
 1. Statistical Fracture Theory
 2. Design in Brittle State Materials
 3. Prestressed Monolithic and Segmented Brittle Structures
 4. Design of Ceramic Aerospace Components
 5. Study of Debris Production
 6. Prestressed Ceramic Elements
 7. Plate Fragmentation
 8. Thermal Shock
 9. Optimum Structural Design
 10. Fragmentation of Reinforced Concrete Slabs
 11. Minimum Weight Scissor Lift Design: Aircraft Service
 12. Minimum Weight Temporary Airstrip Design
 13. Prestressed and Segmented Concrete Flatbed and Flatcar Designs
 14. Non-Resonating Radar Towers

Program Manager

1. Optimum Shock Absorber Design
2. Optimum Shock Insulator Synthesis
3. Optimum Mechanical Design Synthesis
4. Fasteners for Brittle Components

Administrative Title:

Group Leader - High Performance Structures and Materials

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5. Employer: **ILLINOIS INSTITUTE OF TECHNOLOGY, Chicago, IL**
 Position: **Evening Instructor in Mechanical and Aerospace Engineering**
 Chairman: Andrew A. Fejer, Professor, MMAE
 Duration: September 1967 to September 1969
 Duties: Teach MAE 413; Stresses in Machine Elements
6. Employer: **FELT PRODUCTS MANUFACTURING CO., Skokie, IL**
 Business: Manufacturer of Gaskets and Rubber Products
 Position: **Director of Research and Development**
Director of Rubber Laboratory
Director of Industrial Chemistry Laboratory
 Duration: September 1968 to September 1969
 Experience: Project Engineer
 1. Residential Garage Auto Stop
 2. Pipe Insulator Development
 3. Self Sealing Fasteners
 4. Design of Elastomeric Bridge Pads
 5. Punch Press Die Redesign Program
 6. Four Roll Calendar/Optimum Performance Study
 7. Gasket Curing Systems/I.R. and Liquid Cure
 8. Injection Molding Machine/Rubber Program
 9. Fourdrinier Machine/Optimum Mixing Schedules
 10. Residential Car Wash
7. Employer: **ILLINOIS INSTITUTE OF TECHNOLOGY, Chicago, IL**
 Position: **Professor of Mechanical and Aerospace Engineering**
 Chairman: Professor Jamal Yagoobi
 Duration: September 1969 to present
 Teaching:
- | | | |
|------|-----|---|
| C.E. | 306 | Civil Engineering Materials |
| MMAE | 403 | Design of Machine Elements |
| MAE | 404 | Design of Mechanical Systems |
| MAE | 415 | Design of Machines and Systems II |
| MAE | 560 | Principles of Minimum Weight Design |
| MAE | 567 | Design II, Optimization |
| MAE | 551 | Advanced Strength of Materials |
| MMAE | 195 | Statics (Architects) |
| MMAE | 419 | Design for Safety in Machines and Systems |
| MMAE | 295 | Strength of Materials (Architects) |
| MMAE | 540 | Mechanics of Solids and Structures |
| MMAE | 548 | Design and Analysis of Brittle Structures |
| Mech | 201 | Statics |
| Mech | 202 | Dynamics |
| Mech | 203 | Mechanics of Solids I |

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Mech	304	Mechanics of Aerostructures
Mech	207	Strength of Materials

8. Employer: **TRIODYNE INC., Niles, IL**
 Position: **Chairman, Chief Scientist**
 Owner, 100% of stock
 Duration: September 1969 to present
9. Employer: **ALLIANCE TOOL AND MANUFACTURING INC., Maywood, IL**
 Manufacturers of Specialized Cutting Tools
 Position: **Chairman**
 Owner, 50% of stock
 Duration: May 1984 to June, 2003
10. Employer: **INSTITUTE FOR ADVANCED SAFETY STUDIES, Niles, IL**
 A Not-For-Profit Safety Research Consortium
 Position: **Chairman, Chief Scientist**
 Duration: January 1984 to present
11. Employer: **TRIODYNE FIRE & EXPLOSION ENGINEERS, Niles, IL**
 Position: **Board Member and Scientist**
 Owner, 25% of stock
 Duration: March 1, 1989 to May, 2003
12. Employer: **TRIODYNE ENVIRONMENTAL ENGINEERING INC., Niles, IL**
 Position: **President**
 Owner, 33% of stock
 Duration: March 1, 1989 to 2001
13. Employer: **TRIODYNE-WANGLER CONSTRUCTION CO., INC., Niles, IL**
 Position: **Chairman**
 Owner, 20% of stock
 Duration: April 27, 1993 to present
14. Employer: **TRIODYNE RECREATION ENGINEERING, INC., Niles, IL**
 Position: **Chairman**
 Owner, 25% of stock
 Duration: July 1, 1994 to August 1, 1999
15. Employer: **TRIODYNE SAFETY SYSTEMS, L.L.C., Niles, IL**
 Position: **Chairman, Chief Scientist**
 Duration: January 1, 1998 to present

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16. Employer: **TRIODYNE-WANGLER SPECIALTIES, L.L.C., Niles, IL**
Position: **Chairman, Chief Scientist**
Duration: January 1, 1999 to May, 2003
17. Employer: **ALLIANCE BUILDING MAINTENANCE CORP., Niles, IL**
Position: **Chairman**
Duration: June 1, 1999 to January 31, 2003

NON-TECHNICAL PUBLICATIONS

1. "The SST Issue," Voice of the People, Chicago Tribune, (January 11, 1971).
2. "IIT Professor Mourns Congress, Rejection of SST," Your Views of the News, Chicago Daily News (April 2, 1971).

TECHNICAL BOOKS

1. "The Design Testing Interface," Chapter II, Structural Ceramics and Testing of Brittle Materials, edited by S.A. Bortz, and S. J. Acquaviavia, Gordon and Breach Science Publishers, New York, 1968.
2. "Structural Analysis and Design in Ceramics Using Statistical Fracture Theory," Appendix 1, Ceramic Processing, Publication 1576, National Academy of Sciences, 1968.
3. "Prestressed Brittle Structures," Barnett, R.L. and Hermann, P.C., v. 4, Chapter 5, Fracture, edited by H. Liebowitz, Academic Press, New York, 1969.
4. "A Pressure Vessel Hatch Cover Failure - A Design Analysis," Kaplan, M.P., Willis, T., and Barnett, R.L., Case Histories Involving Fatigue and Fracture Mechanics, Charleston, South Carolina, March 21-22, 1985. ASTM Publication (PCN) 04-918000-30, Philadelphia, PA 1986.
5. "Retractable Overhead Guards for Industrial Vehicle Without seatbelts," Barnett, R. L., and Poczynok, P. J. The Engineering Science of Structures, Chapter 1, Illinois Institute of Technology, Chicago, IL, 2000.

SELECTED TECHNICAL RESEARCH REPORTS

1. Lightweight Structures and Prestressed Launcher Components, Rock Island Arsenal, Ord. Proj. # TU2-70, Phase 2, Theoretical Studies, January 1958, 165 pages.

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2. The Feasibility of Tunnel Closures to Resist Nuclear Blast, Office of Civil and Defense Mobilization, Contract # CD-SR-58-30, August 1959, 182 pages.
3. Lightweight Structures and Prestressed Launcher Components, Rock Island Arsenal, Ord. Proj. # TU2-70, Phase 2, Experimental Investigations, October 1958, 112 pages.
4. Lightweight Structural Design/Radar Support System, Rome Air Development Center, Contract # AF30 (603)-1799, December 1958, 66 pages.
5. Design of Entrance System for Personnel Protective Shelters, U.S. Naval Civil Engineering Laboratory, Contract # NBY-3163, December 1959, 274 pages.
6. Comparative Protective Structural Design, Hardening for Air Weapons Systems, Air Force Special Weapons Center, Contract # AF29 (601) 547, February 1960, 234 pages.
7. Impact Resistance of Off-Highway Truck Bodies, Design Manual for Impact Resisting Structures, Stanray Report, November 1960, 250 pages.
8. Minimum Cost Girder Design, Stanray Report, May 1961, 47 pages.
9. Fiber Reinforced Plastic Shell Studies/Drive-In and Silo Structures, Stanray Report, January 1962, 111 pages.
10. Literature on Design Techniques and Analytical Methods for Brittle Materials, ASD, Air Force Systems Command, Contract # AF33 (657)-8539, April 1963, 258 pages.
11. Review of Structural Design Techniques for Brittle Components Under Static Loads, Air Force Flight Dynamics Laboratory, Air Force Systems Command, Tech. Doc. Report # FDL TDR 64-123, September 1964, 123 pages.
12. Prestressed Monolithic and Segmented Brittle Structures, NASA Contract # NASR-65904, NASA-Cr-113, October 1964, 88 pages.
13. The Behavior and Design of Brittle Structures, Air Force Flight Dynamics Laboratory, Air Force Systems Command, Technical Report AFFDL-TR-65-165, September 1965, 225 pages.
14. Studies and Debris Production, Stanford Research Institute, M6103, October 1966, 131 pages.
15. Studies in Prestressed and Segmented Brittle Structures, NASA Contract # NASR-65 04, NASA-Cr-505, June 1966, 130 pages.

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16. Experimental Investigation of Plate Fragmentation, OCD, M6074, October 1966, 83 pages.
17. Fracture of Brittle Materials Under Transient Mechanical and Thermal Loading, Flight Dynamics Laboratory, Air Force System Command, M6100, November 1966, 163 pages.
18. High Performance Structures, NASA Contract # NASR-65 (16), NASA Cr-1038, May 1968, 117 pages.
19. Debris Formation and Translation, OCD, Contract # OCD-PS-64-201, Work Unit 3322B, November 1966, 185 pages.
20. Product Development/Auto Stop, Felt Products Report, September 1969, 98 pages.
21. LPG Tank Car Safety, Department of Transportation, July 1970, 35 pages.
22. Development of Safeguard Equipment Criteria, Department of the Army, Construction Engineering Research Laboratory, September 1970, 65 pages.

PATENTS

1. "Minimum Energy Curb Negotiating Wheelchair," U.S. Patent No. 4,962,942 issued October 16, 1990, Ralph L. Barnett, Steven R. Schmid and Robert Kaplan.
2. "Remote and Proximal Interlock Testing Mechanisms and Testing Systems," U.S. Patent No. 5,870,317 issued February 9, 1999, Ralph L. Barnett and Theodore Liber. Foreign patents applied for.
3. "Safety System for Multiple Drain Pools," U.S. Patent No. 5,894,609 issued April 20, 1999, Ralph L. Barnett.
4. "Drain Apparatus I," U.S. Patent No. D410,073 issued May 18, 1999, (Design Patent), Ralph L. Barnett.
5. "Drain Construction," U.S. Patent No. D421,101 issued February 22, 2000 (Design Patent), Ralph L. Barnett.
6. "Drain Construction," U.S. Patent No. D421,102 issued February 22, 2000 (Design Patent), Ralph L. Barnett.
7. "Drain Construction," U.S. Patent No. D421,295 issued February 29, 2000 (Design Patent), Ralph L. Barnett.

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8. "Drain Assembly for Preventing Hair Entanglement in a Pool or Hot Tub," U.S. Patent No. 6,088,842 issued July 18, 2000, Ralph L. Barnett.
9. "Window Locking System," U.S. Patent No. 6,139,074 issued October 31, 2000, Ralph L. Barnett and William A. Wangler.
10. "Window Latch," U.S. Patent No. D435,429 issued December 26, 2000 (Design Patent), Ralph L. Barnett and William A. Wangler.
11. "Anti-Hair Snare," U.S. Patent No. D439,957S, issued April 3, 2001 (Design Patent), Ralph L. Barnett and Peter J. Poczynok.
12. "Anti-Vacuum Drain Cover", U.S. Patent No. 6,230,337 B1 issued May 15, 2001, Ralph L. Barnett.
13. "Zero Speed Indicating Devices and Process of Testing Same," U.S. Patent No. 6,389,875 B1 issued May 21, 2002, Ralph L. Barnett and Theodore Liber.
14. "Anti-Slide Out Devices For Straight and Extension Ladders," U.S. Patent No. 6,405,829 B1 issued June 18, 2002, Ralph L. Barnett.
15. "Remote and Proximal Guard Testing Systems and Testing Systems Either Separately or in Conjunction With Interlock Testing Mechanisms and Systems", U.S. Patent No. 6,604,014 B1 issued August 5, 2003, Ralph L. Barnett and Theodore Liber.
16. "Anti-Slide Out Devices for Straight and Extension Ladders", U.S. Patent No. 6,629,582 B2 issued October 7, 2003, Ralph L. Barnett.
17. "Counter-Latch for a Self-Dumping Hopper", U.S. Patent No. 6,733,225 issued May 11, 2004, Ralph L. Barnett, William C. Brown, Charles Sinkovits.
18. "Drain Cover", U.S. Patent No. 6,738,994 issued May 25, 2004, Ralph L. Barnett and Peter J. Poczynok.
19. "Interlocked Pool & Spa Drain Covers", U.S. Patent No. 6,865,755B2 issued March 25, 2005, Ralph L. Barnett.
20. "Zero Speed Indicating Devices and Process of Testing Same". U.S. Patent No. 6,877,355 B2 issued April 12, 2005, Ralph L. Barnett and Theodore Liber.
21. "Zero Speed Indicating Devices and Process of Testing Same". U.S. Patent No. 6,928,855 B2 issued August 16, 2005, Ralph L. Barnett and Theodore Liber.

PATENTS PENDING

1. "Limited Movement Roller System", (For moving heavy machinery) Ralph L. Barnett.
2. "Double Wheel Chock Frame", (For controlling roller systems for moving heavy machinery) Ralph L. Barnett.
3. "Drain Cover" (Patent Continuation), Ralph L. Barnett and Peter J. Poczynok.
4. "Planetary Wheel With Swivel Capability", Ralph L. Barnett.
5. "Tandem Axle With Swivel Wheels", Ralph L. Barnett.

PROFESSIONAL TALKS, INTERVIEWS AND CRITIQUES

1. "Teaching Engineering as a Career," ASME Student Forum, Meeting at Technology Center, Chicago, IL, March 6, 1958.
2. "Minimum Weight Design of Beams," Illinois Section, ASCE, Friday Luncheon Program, July 1, 1959.
3. "Lightweight Design of Ordinance Equipment," Transportation Research and Engineering Command, Fort Eustis, VA, July 9, 1959.
4. "The Optimum Design of Structures," Northwest Indiana Sections, ASCE, Meeting at Valparaiso University, Valparaiso, IN, October 20, 1959.
5. "The Capacity of Crane Booms," ASME Chicago Section, Chicago, IL, April 4, 1962.
6. "On the Optimum Rigging of Crane Booms," ASME, Material Handling Engineering Session, New York, NY, November 26, 1962.
7. "Selection of Materials for Minimum Weight Design," ASME Design Engineering Conference, New York, NY, May 22, 1963.
8. "Statistical Design in Brittle Materials," Illinois Institute of Technology Mechanics Seminar, Chicago, IL, December 4, 1963.

*Titles by sponsoring organizations; talks on more restricted topics.

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9. "Survey of Optimum Structural Design," Salt Lake City, UT, May 6, 1964.
10. "Reliability in Structural Design with Brittle Materials," ASME Design Engineering Conference, New York, NY, May 19, 1965.
11. "Prestressed Ceramic Structures," Session Chairman and Speaker, Applications for Composite Session, American Ceramics Society, Fall Meeting, French Lick, IN, September 12, 1965.
12. "Mechanical Behavior of Structural Ceramics," Evening Speaker, American Ceramics Society, Fall Meeting, Washington, DC, September 13, 1965.
13. "Design in Brittle Materials," National Academy Science National Research Council, MAB Committee Ceramic Processing, Washington, DC, September 23, 1965.
14. "Joining of Ceramic Structures," S.A.M.P.E., 9th National Symposium, Dayton, OH, November 16, 1965.
15. "Prestressing in Brittle Design," Ceramics Seminar, University of Washington, Seattle, WA, June 20, 1966.
16. "Statistical Fracture Theory," American Society Engineering Education, 74th Annual Meeting, Washington State University, Pullman, WA, June 22, 1966.
- 17-21. Seminar - Minimum Weight Design, IITRI, Chicago, IL, five(5) lectures, July 16, 1966.
22. "Design with Graphite Materials," September 9, 1966.
23. "Philosophy of Testing," American Society for Metals, Saginaw Valley Chapter, September 28, 1966.
24. "Innovations in Structural Design," NASA Conference on Structural Philosophy, Palo Alto, CA, October 18-19, 1967.
25. Seminar: "Thermal Shock," Thermal Stress Problems in Flight Structures, Wright Field, OH, November 14, 1967.
26. Seminar: "Optimum Design Techniques," Advanced Techniques in Structural Engineering, Chicago, IL, May 25, 1967.

*Titles by sponsoring organizations; talks on more restricted topics.

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27. "The Design Testing Interface," U.S. Army Materials Research Agency Seminar, Structural Ceramics and Testing of Brittle Materials, Chicago, IL, March 29, 1967.
28. "Statistical Fracture Theory," AGARD International Meeting on Design in Brittle Materials, London, England, September 4-6, 1967.
29. "Design in Brittle Materials," U.S. Army Materials and Mechanics Research Center Seminar, Structural Ceramics and Design with Brittle Materials, Chicago, IL, March 13, 1968.
30. "Optimum Prestressed Columns," ASCE Joint Specialty Conference, Optimization and Nonlinear Problems, Chicago, IL, April 18-20, 1968.
31. "Design of Statically Determinate Trusses for Minimum Weight and Deflection," 1968 Aviation and Space Conference, Beverly Hills, CA, June 18, 1968.
32. "Structural Aspects of Electronic Ceramics," American Society for Testing and Materials, Electronics Division of the American Ceramic Society, St. Paul, MN, September 18, 1968.
33. "Application of Statistical Fracture Theory to Graphite Components," American Society of Ceramics, Pasadena, CA, October 24, 1968.
34. "The Real Engineer vs. the Pseudo-Engineer," ASME Pi Tau Sigma Banquet, Chicago, IL, May 13, 1970.
35. "Structural Design Concepts for the Future," The World Future Society, Evanston, IL, May 20, 1970.
36. "The Social Scientist's Role in the Engineering of Highway Safety," Metropolitan Studies Center, Chicago, IL, October 12, 1970.
37. "Ductility, Pseudoductility, and Load Redistribution," American Ceramics Society, Advanced Materials: Composites and Carbon, Chicago, IL, April 26, 1971.
38. "The Engineer as an Expert Witness," Chi Epsilon, Binyons Restaurant, Chicago, IL, May 1, 1971.
39. "Getting Student Engineers to Consider Aesthetics and Safety," ASEE Annual

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Conference, Annapolis, MD, June 23, 1971.

40. "The Role of the Expert Witness in Our Legal System," New Trier High School-West, Northfield, IL, October 27, 1971.
41. "Statistical Fracture Theory in the Design of Brittle Materials," ASME Annual Winter Meeting, Washington, DC, December 1, 1971.
- 42-47.* "Product Liability Claims," Seminar, AMR International Inc., Chicago, IL: October 19-20; New York, NY: November 2-3; San Francisco, CA: December 11-12 (all 1972); Chicago: January 18-19; New York: February 22-23; Los Angeles, CA: March 15-16 (all 1973).
- 48.* "Product Liability," ASME, Chicago, IL, September 19, 1972.
49. "Mechanics and Mechanical Engineering," 1972 National Youth Conference on Science and the Environment, Chicago, IL, November 9, 1972.
50. "Product and System Liability," Western Society of Engineers, Chicago, IL, December 13, 1972.
51. "Professional Engineering," Chi Epsilon, Chicago, IL, April 21, 1973.
52. "The Truth, the Courtroom, and the Engineer," ASCE, Chicago, IL, May 18, 1973.
53. "Safety Glasses and Grinding Wheels - A Study in Forensic Engineering," Society of Experimental Stress Analysis, Chicago, IL, October 16, 1973.
54. "Careers in Mechanics and Mechanical and Aerospace Engineering," National Youth Conference on Science and the Environment, Chicago, IL, November 8, 1973.
- 55.* "Defend Your Products Against Product Liability Claims," University of Illinois, Chicago Circle Campus Engineering Alumni Association, Chicago, IL, January 17, 1974.
56. "Safety of Woodworking Machinery," Woodworking Machinery Manufacturers of America, Rockford, IL, January 29, 1974.
57. "Forensic Engineering," Guest Lecturer, IIT MMAE 411, February 15, 1974.

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- 58. "Cross Examination or Why There Are So Few Expert Witnesses," Western Society of Engineers, March 6, 1974.
- 59. "Techniques in Product Liability," Tau Beta Pi, Chicago, IL, March 31, 1974.
- 60. "The Expert Witness - An Engineer's Viewpoint," United States Environmental Protection Agency Seminar, Legal Aspects of Air Pollution Control, Chicago, IL, May 6-7, 1974.
- 61. "Product Liability - Design of Safety Glasses," Illinois College of Optometry, Chicago, IL, May 10, 1974.
- 62.* "Product Liability for Machinery Manufacturers and Users," Forest Products Research Society, Chicago, IL, June 23, 1974.
- 63. "Structural Analysis vs. Optimum Design," American Society of Mechanical Engineers, IIT, Chicago, IL, October 3, 1974.
- 64.* "Your Product is Defensible," Power Transmission Design Show, Philadelphia, PA, November 12, 1974.
- 65. "Product Liability from the Design Engineer's Point of View," American Society of Mechanical Engineers, IIT, Chicago, IL, April 1, 1975.
- 66. "Safety Glasses," Illinois College of Optometry, Chicago, IL, April 25, 1975.
- 67. "Relationship of Case Law to Industrial Safety," ASME, Houston, TX, December 2, 1975.
- 68.* "Expert and Lawyer - Ships Passing in the Night," 12th Annual Defense Tactics Seminar, Illinois Defense Council, Chicago, IL, March 6, 1976.
- 69. "Crane Visibility," Crane Safety Workshop, Employers Insurance of Wausau, Milwaukee, WI, June 4, 1976.
- 70.* "Forensic Aspects of Full-Scale Structural Testing," Conference on Full-Scale Structural Testing, Engineering Foundation, Rindge, NH, July 19, 1976.
- 71-72.* "Product Liability Seminar," Greenlee Brothers and Company, Rockford, IL, November 1-4, 1976.
- 73-74.* "The Impact of Product Liability on Corporate Survival," National Engineers

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Week, Teletype Corporation, Chicago, IL, February 20-26, 1977.

- 75.* "Does Consumerism Control Technology?" Second Annual Chicago Region Junior Engineering, Science and Humanities Symposium, IIT, Chicago, IL, March 5, 1977.
- 76. "What Went Wrong," ASME, IIT, Chicago, IL, April 12, 1977.
- 77.* "The Trial Court," Design Engineering Show, ASME, McCormick Place, Chicago, IL, May 10, 1977.
- 78.* "Impact of Product Liability on Society," The Mickey Stewart Talk Show, WDAI-FM, Chicago, IL, May 16, 1977.
- 79. "Safety vs. Liability Protection," American Society of Safety Engineers, Rockford, IL, May 23, 1977.
- 80.* "Manufacturing Liability and Product Liability," Society of Manufacturing Engineers, Chicago, IL, November 10, 1977.
- 81.* Interview: "A Cancer Creeping Over Industry (Faculty Perspectives Ralph L. Barnett," IIT Technology News, vol 103 #14 (December 5, 1977): 2.
- 82. "Vehicle Safety," Junior Engineering, Science and Humanities Symposium, Chicago, IL, March 8, 1978.
- 83. "Safety and the Judicial Value System," Junior Engineering, Science and Humanities Symposium, Chicago, IL, March 8, 1978.
- 84.* "Conflicts Between the Engineering and Legal Systems," Junior Engineering, Science and Humanities Symposium, Chicago, IL, March 8, 1978.
- 85. "Judicial Value System," Kent Law School, Chicago, IL, April 24, 1978.
- 86. "Safety, the Law, and the Expert Witness," Kent Law School, Chicago, IL, April 26, 1978.
- 87*. "Gold vs. Litman Manufacturing (Problem 79)," National Institute for Trial Advocacy, Chicago Bar Association, Chicago, IL, March 17, 1978.
- 88. "Relationship Between the Safety Expert and the Legal Profession, Kent Law School, Chicago, IL, July 12, 1978.

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89. "Development of Science/Math Track Module for High School Minority Students," Sloan Foundation Project, Department of Technology and Society, State University of New York at Stonybrook, NY, August 5, 1978.
90. "Courtroom Communication," Kemper Insurance Company, Long Grove, IL, September 12, 1978.
91. "Safety and Forensic Expert Stress Analysis," Society for Experimental Stress Analysis, Chicago, IL, October 12, 1978.
- 92.* "Nanda vs. Ford Motor Company," Illinois Institute for Continuing Legal Education, Chicago Bar Association, Chicago, IL, October 27, 1978.
- 93.* Interview: "Product Liability Litigation: The Expert Witness," Insurance Negligence and Compensation Law, American Bar Association, v. 8, # 1, November, 1978.
94. Seminar: "Safety of Rotary Machinery," Greater Syracuse Manufacturing Engineers, Syracuse, NY, February 3, 1979.
95. "Product Liability: An Assault on the General Public," Society for Experimental Stress Analysis, Milwaukee, WI, February 7, 1979.
96. Seminar: "Safety of Paper Converting Machinery," Greater Dayton Mechanical Engineers, Dayton, OH, February 17, 1979.
- 97.* "Trial of a Product Liability Case," American Bar Association, Miami, FL, February 19-21, 1979.
98. Seminar: "Safety of Lumber Mill Equipment," Production Engineering Symposium, Seattle, WA, March 3, 1979.
99. Seminar: "Safety of Concrete Machinery," Greater Waterloo Production Engineers, Waterloo, IA, March 10, 1979.
100. "Design Philosophy and the Judicial System," Junior Engineering, Science and Humanities Symposium, Chicago, IL, March 27, 1979.
101. "Legal Defects and Products Defects," Junior Engineering, Science and Humanities Symposium, Chicago, IL, March 27, 1979.
102. "Air Quenching, Chemical and Banding Systems for Prestressing Safety Glasses,"

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American College of Optometry, Chicago, IL, April 24, 1979.

103. "Careers - The Field of Product Safety," The New York Times: Elizabeth M. Fowler, April 25, 1979.
- 104.* "Trial of a Motorcycle Liability Case," American Bar Association Institute, San Diego, CA, May 31, June 1-2, 1979.
105. "Mechanical Behavior of Insulated Crane Hooks," Crane Electrocution Conference, Chicago, IL, August 6, 1979.
106. "The Multiple Roles of the Forensic Technologist," Kent Law School, Chicago, IL, August 30, 1979.
107. "Football Helmets - Science vs. Law," Junior Engineering, Science and Humanities Symposium, Chicago, IL, April 10, 1980.
- 108.* "Direct Examination of the Expert Witness Utilizing Videotape Experiments in the Courtroom for Product Demonstration," Mississippi Defense Lawyers Association, New Orleans, LA, April 24-27, 1980.
109. "Optometry Glass Science and the Law," Illinois College of Optometry, Chicago, IL, May 6, 1980.
- 110.* "Should Compliance with the ASME Boiler Code Create a Rebuttable Presumption of Proper Design?," ASME Symposium on Critical Materials and Fabrication Issues, San Francisco, CA, August 14-15, 1980.
111. Seminar: "Design for Safety," Continuing Education Series, University of Chicago, Chicago, IL, October 15, 1980.
112. "The Legal/Technical Interface," Kent Law School, Chicago, IL, November 5, 1980.
113. Seminar: "Safety and the Mechanical Press," Kitch, Srheinrich, et al., Detroit Athletic Club, Detroit, MI, December 6, 1980.
114. "Radial Prestressing of Safety Lenses," Illinois College of Optometry, Chicago, IL, March 17, 1981.
115. "On the Classification of Safeguard Devices," National Conference on Fluid Power, McCormick Place, Chicago, IL, October 22, 1981.

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116. Seminar: "Optimum Safety Analysis of Press, Roller, and Mixer Machinery," Conway, Reiseman, Bumgardner and Kleinfeld, Braidburn Country Club, Newark, NJ, November 3, 1981.
117. Seminar: "Moral Issues in Forensic Engineering," Center for the Study of Ethics in the Professions, Chicago, IL, November 11, 1981.
118. Seminar: "Intrinsic and Hierarchical Characteristics of Safeguarding Systems," Casualty Adjusters Association of Chicago, Chicago, IL, November 18, 1981.
119. "Design Implications of Product Law," Illinois Section, ASCE, Chicago, IL, November 20, 1981.
- 120.a* Critique of Casework: "Trial Lawyers: Effective Industrial Safety Engineers," by Browne Greene, TRIAL.
 - b. November 1981; reprinted in Professional Safety, Official Publication of the American Society of Safety Engineers, January, 1983.
121. Videotape: "Forensic Engineering," National Science Foundation, CAUSE - Multiple Approach Teaching Engineering, Triton College, River Grove, IL, December 4, 1981.
122. Television Interview: "Forensic Model Making," Two on Two, WBBM-TV, 10:30 to 11:00 PM, January 31, 1982 and August 22, 1982.
123. Radio Interview: "ZORO-Zero Obstruction Repair Overpass," Clark Weber Show, WIND Radio (560 AM), February 26, 1982.
- 124.* Radio Interview: "Skokie Public Library Presentation of Triodyne's Safety and Forensic Engineering," Jack Stockton Show, WIND Radio (560 AM), February 27, 1982.
125. "You the Jury," Triodyne Safety and Forensic Engineering Exhibit, Skokie Public Library, Skokie, IL, March 12, 1982.
126. Radio Interview: "ZORO-Zero Obstruction Repair Overpass," Bob and Betty Sanders Show, WBBM Radio (780 AM), March 23, 1982.
127. "From Louvered Armor to Radially Prestressed Sight Glasses," Illinois College of

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Optometry, Chicago, IL, April 12, 1982.

128. Seminar: "On the Safety of Paper Winders," Pulp and Paper Machinery Manufacturers, O'Hare Hilton, Chicago, IL, May 4, 1982.
129. "The Undefendable Safe Product," Chicago Chapter, Society of Manufacturing, Elmwood Park, IL, May 13, 1982.
130. "Anti-Diving Systems and Shock Attenuating Design of Swimming Pools," Swimming Pool Litigation Conference, Detroit, MI, May 15, 1982.
- 131.* Interview: "Forensic Engineering Defends Product Designs in Court," Midwest Engineer, May 1982.
- 132.* Interview: "Colleges Tailoring Curricula to Fit Changing Job Markets," by Carole A. Carmichael, Chicago Tribune, July 25, 1982.
133. Seminar: "Ethics and Reasonably Foreseeable Misuse," Center for the Study of Ethics in the Professions, Chicago, IL, November 3, 1982.
134. "Concepts in Forensic and Safety Engineering," Chicago Western Chapter, American Society for Metals, Hinsdale, IL, November 23, 1982.
- 135.* Seminar: "Product Liability Considerations in Design," American Society of Agricultural Engineers, Chicago, IL, December 13-14, 1982.
136. "Product Liability as it Applies to Machine Design," American Society of Safety Engineers, Mt. Prospect, IL, January 17, 1983.
- 137.* "The Legal Implications of Daily Engineering Activities," Society for Experimental Stress Analysis, Morton Grove, IL, March 3, 1983.
- 138.* "Forensic Engineering," System Safety Society - Society of Reliability Engineers, Milwaukee, WI, March 7, 1983.
- 139.* Critique of 1982 ASAE Seminar: "Product Liability-Part I: Testing Designs in the Courtroom," Frank Buckingham, Implement & Tractor, March 1983.
- 140.* Critique of 1982 ASAE Seminar: "Product Liability-Part II: The Best Defense...", Frank Buckingham, Implement & Tractor, April 1983.
- 141.* Critique of 1982 ASAE Seminar: "Product Liability-Part III: Designing for

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Safety," Frank Buckingham, Implement & Tractor, May 1983.

142. "Safety Analysis Methods for Farm Machinery," Agri-Component Exposition, Bartle Hall, Kansas City, MO, June 9, 1983.
- 143.* Seminar: "Product Design in Today's Legal and Regulatory Environment," 1983 SAE International Off-Highway Meeting and Exposition, Mecca, Milwaukee, WI, September 12-13, 1983.
144. "The Dependency Hypothesis: Man Cages, Anti-Two-Blocking, Insulated Links," 1983 Product Safety & Technical Seminar, Construction Industry Manufacturers Association, Bloomingdale, IL, October 6, 1983.
- 145.* Seminar: "How Should Mechanical Engineers Design Safety Into Mechanical Equipment," Sponsored by ASME, 71st Annual National Safety Congress and Exposition, National Safety Council, Conrad Hilton Hotel, Chicago, IL, October 19, 1983.
146. "Intrinsic Classification of Safeguarding Devices - Manufacturers' Non-Delegable Duty to Provide Safeguarding Devices," St. Louis Association of Defense Counsel, St. Louis, MO, November 3, 1983.
- 147.* Seminar: "Product Design in Today's Legal and Regulatory Environment," 1983 SAE Truck and Bus Exposition, Stouffer's on the Square, Cleveland, OH, November 8, 1983.
148. "Product Liability: Theory v Practice," Society of Plastic Engineers, Chicago Chapter, City of Hope, Niles, IL, November 16, 1983, at Triodyne, 5950 W. Touhy Ave., Niles, IL 60648.
149. Seminar: "Safety and Human Factors Engineering," Grove Manufacturing Co., Shady Grove, PA, December 12, 1983.
- 150.* "Product Safety and Liability Engineering," American Society of Safety Engineers, Region III, 12th Annual Professional Development Conference and 2nd Annual Engineering Division Seminar, Earl Rudder Conference Center, Texas A&M University, College Station, TX, February 6, 1984.
- 151.* Seminar: "Product Design in Today's Legal and Regulatory Environment," 1984 SAE International Congress and Exposition, Renaissance Center, Detroit, MI, February 28, 1984.
152. Seminar: "The Analysis and Design of Mobile Crane Safety Systems," Grove

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Manufacturing Company, Shady Grove, PA, March 26-27, 1984.

153. Seminar: "Bexiga, Barker and Beshada," Kent Law School, Chicago, IL, April 13, 1984.
154. Seminar: "Safety Engineering v Liability Proofing," Conveyor Equipment Manufacturers Association, 57th CEMA Engineering Conference, Williamsburg, VA, May 10, 1984.
- 155.* Seminar: "Product Design in Today's Legal and Regulatory Environment," 1984 SAE Government/Industry Meeting and Exposition, Washington, DC, May 22, 1984.
156. "Safety and Human Factors Considerations in the Design of Electrodynamic Separators," Greater Portland Production Engineers, Portland, OR, June 2, 1984.
157. Seminar: "The Interlock Problem - Preliminary Findings," Conveyor Equipment Manufacturers Association, 1984 Semi-Annual Meeting, Chicago, IL, September 28, 1984.
158. Seminar: "FOPS - A Safety and Forensic Engineering Dilemma," Construction Industry Manufacturers Association, 1984 Product Safety and Technical Seminar, Lincolnshire, IL, October 18, 1984.
159. Seminar: "Safety Research, Product Liability, and Accident Prevention," National Institute of Occupational Safety and Health, Morgantown, WV, November 27, 1984.
- 160.* Panel Member: "The Use of Standards Controlling How Consumer and Industrial Products are Made and Used," Forum III, National Symposium on Product Safety, National Safety Council, Chicago, IL, December 5, 1984.
161. Seminar: "The Dependency Hypothesis - Expected Use," Panel on Engineering Responsibilities in the Design of Safe Equipment, ASME Winter Annual Meeting, New Orleans, LA, December 11, 1984.
- 162.* Critique of September, 1984 CEMA Presentation: "Interlock Problem Rated Among Industry's Toughest to Solve," CEMA Bulletin, October-December, 1984.
- 163.* "Safety and the Legal Environment," Tri-State Chapter, American Society of Safety Engineers, Highland, IN, March 12, 1985.
- 164.* Panel Member: "Prevention of Severe Occupational Traumatic Injuries," National Symposium on the Prevention of Leading Work-Related Diseases and

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Injuries, NIOSH, Atlanta, GA, May 1-3, 1985.

165. "Forklift Operator Restraint Systems," Meeting on Operator Protection, Industrial Truck Association, Marriott-O'Hare, Chicago, IL, June 28, 1985.
- 166.* "Avoiding Trouble When the Load's Up," (Mobile Crane Lifting Encyclopedia Part 2) Construction Equipment, v.72, # 1 (July 15, 1985), pp. 97-101.
167. "On Safety Libraries," International Federation of Library Associations, 51st Council and General Conference, Niles, IL, August 24, 1985.
168. "Safety Design of Converting Equipment," Kimberly-Clark Corporation, Neenah, WI, August 27, 1985.
- 169.* "High-Tech Implications for the Safety Professional," Borg-Warner Corporation Loss Control Seminar, Des Plaines, IL, October 4, 1985.
170. "The Dependency Hypothesis - Misuse," Human Factors Engineering and the Liability Interface, American Society of Agricultural Engineers Winter Meeting, Chicago, IL, December 17, 1985.
171. "Research, Consensus and Training," International Woodworking Machinery and Furniture Supply Fair, Education and Research Meeting, Naples, FL, March 6, 1986.
- 172.* Seminar: "Effective Use of Demonstrative Evidence and Exhibits in the Courtroom," Twenty-Second Annual Defense Tactics Seminar, Illinois Association of Defense Trial Counsel, Chicago, IL, March 8, 1986.
173. "The Dependency Hypothesis - Expected Use," Summer Meeting Program, American Society of Agricultural Engineers, San Luis Obispo, CA, July 2, 1986.
- 174.* Seminar: "The Product Liability Challenge: Holding the Line on Cost," Illinois Manufacturers Association, Oak Brook, IL, October 15, 1986.
- 175.* "Product Liability Risk Assessment and Control," Casualty Loss Control Conference, Chicago, IL, October 22, 1986.
- 176.* "Product Liability/Safety Seminar," Woodworking Machinery Importers Association, Washington, DC, November 7, 1986.
177. "Loss Control, Research and Product Liability," Aetna Insurance Company,

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Hartford, CT, November 11, 1986.

178. Seminar: "Advances in Safety and Human Factors Engineering Techniques," Kimberly-Clark Corporation, Infant Care Products Engineering, Neenah, WI, December 5, 1986.
179. Seminar: "Ergonomic Considerations in the Design of Converting Machines," Kimberly-Clark Corporation, Feminine Care Products Engineering, Neenah, WI, December 5, 1986.
180. Presentation: American Society of Safety Engineers, Structure and Membership Profile, Chicago, IL, December 16, 1986.
- 181.* "The Value of Standards in Litigation for Plaintiffs and Defendants," American Society of Agricultural Engineers, Winter Meeting, Chicago, IL, December 16, 1986.
182. "In Search of Zero Amputations - An Innovative Approach," Johnson & Johnson 1986-87 Worldwide Safety Conferences, New Brunswick, NJ, January 12, 1987.
183. "Design Imperatives Arising From Safety and Law," Farm Equipment Manufacturers Association Spring Management Clinic, Corpus Christi, TX, March 24, 1987.
184. "Industrial Safety and Ergonomic Research," Aetna Engineering Departments, Aetna Life & Casualty, Hartford, CT., April 15, 1987.
185. "The Exact Theory of Safety," Connecticut Valley Chapter American Society of Safety Engineers, Hartford, CT., April 15, 1987.
186. "Woodworking Machinery Importers Association Safety, Health and Environmental Seminar," Sponsored by the Institute for Advanced Safety Studies, April 24, 1987, Niles, Illinois.
187. "The Role of Research in Loss Prevention," American Supply and Machinery Manufacturing Association, Triple Industry Supply Convention, Los Angeles, CA., May 11, 1987.
188. Seminar: "Warning Sign Philosophy and the Theory of Uniform Safety," Greenlee Tool Company, Rockford, IL., May 13, 1987.
- 189.* Interview: "A Case for Crane Safety and Legal Reform," Construction Equipment, July 1987.

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190. "Product Defect Theories from the Engineer's Perspective," The Young Lawyers Section of the Chicago Bar Association, September 29, 1987, Chicago, Illinois.
191. "Ladder Warning Labels/Human Factors," American Ladder Institute, Hyatt Regency, Dearborn, MI., October 5, 1987.
192. "Unethical Conduct and Product Liability," Indiana Society of Professional Engineers, 50th Anniversary, Calumet Chapter, Hammond, IN., October 20, 1987.
- 193.* Interview: "Sleuths Ferret Out The Facts For Court Trials", Midwest Engineer, (November, 1987).
194. Seminar: "Philosophical Aspects of Safety Engineering," Product Safety and Liability Prevention Program, The Role of the Engineering Expert Witness, The College of Engineering, University of Wisconsin, Madison, Wisconsin, December 14, 1987.
195. "Principles of Safety," American Society of Agricultural Engineers, Winter Meeting, Chicago, Illinois, December 17, 1987.
196. "Advances in Safety & Human Factors Engineering", Bodine Society of Engineers' January Meeting, Chicago, Illinois, January 21, 1988.
197. "Interlock Research - Graphic Arts Machinery", Rockwell International, Chicago, Illinois, February 11, 1988.
198. "Compaction Equipment - Safety and Ergonomic Principles" Wacker Corporation, Menominee Falls, Wisconsin, February 23 and 24, 1988.
- 199.* Television Interview: "Metropolitan Sanitary District Tunnel and Reservoir Plan Safety," NBC - News WMAQ-TV Chicago, IL., 5:00 p.m. News, March 7, 1988.
200. Provided research literature for OSHA Hearings, regarding Lockout/Tagout for U.S. Senate Committee on Labor and Human Resources, April, 1988.
201. Seminar: "Safety and Human Factors Developments for Outdoor Equipment," Garden Way Mfg., Troy, NY, April 13, 1988.
202. Interview with environmental reporter Rob Karwath of the Chicago Tribune, May 30, 1988, regarding the Metropolitan Sanitary District of Greater Chicago, Deep Tunnel Project Safety.

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- 203. Seminar: "Recognize the Hazard, Design to Avoid It," Converting Equipment Manufacturers Association, Bloomingdale, IL, June 1, 1988.
- 204. Seminar: "Construction Safety," Artex Insurance Company of Dallas, Hyatt Hotel, Chicago, IL., September 21, 1988.
- 205. "Judicial Contributions to Woodworking Safety," Woodworking Machinery Importers Association, 1988 Annual Meeting, Kingsmill Resort, Williamsburg, Virginia, October 21, 1988.
- 206. "The Theory of Ladder Labeling and Warning," American Ladder Institute, Fall 1988 Meeting, Westin Hotel, Chicago, Illinois, October 24, 1988.
- 207. "Advances in Warning Sign Theory," Chicago Bar Association, Chicago, Illinois, January 12, 1989.
- 208. "Safety Manuals," Jensen Publications, New Berlin, Wisconsin, January 17, 1989.
- 209. "Injury Epidemiology Issues," Annual Safety Conference of Industrial Foundation for Industrial Ergonomics and Safety Research, Clarion Hotel, Cincinnati, Ohio, June 9, 1989.
- 210. Seminar: "Balancing Safety and Risk" Southern New England Bell, US Grant Hotel, San Diego, CA, September 13, 1989.
- 211. "Product Liability Engineering/Legal Aspects," Critical Issues Confronting Mohawk Valley Manufacturers Seminar for New York State Department of Economic Development, Suny Institute of Technology at Utica/Rome, New York, October 17, 1989.
- 212. "The Safety Design Process," Construction Industry Manufacturers Association 1989 Product Safety & Technical Seminar, Evergreen Conference Center and Resort, Stone Mountain, Georgia, October 19, 1989.
- 213. Seminar: "Experimental Mechanics in Safety Engineering," Triodyne Inc., Niles, Illinois, March 1, 1990.
- 214.* Seminar: "The Specialty Safety Course," Integration of Safety & Health Into Engineering Curricula: Why It Is Important and How It Can Be Accomplished, A Workshop Sponsored by The National Institute for Occupational Safety and Health (NIOSH), The University of Utah College of Engineering, and The Rocky Mountain Center for Occupational and Environmental Health, Salt Lake City, Utah, April 27, 1990.

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215. Seminar: "Controls and Interlocks," Converting Equipment Manufacturers Association (CEMA) Safety Practices Seminar, Oak Brook, Illinois, May 30, 1990.
216. Seminar: "Safety and Ergonomic Consideration In The Design of Pneumatic Hand Tools," Huck Equipment Company, Kingston, New York, June 29, 1990.
217. Seminar: "Human Factors Engineering, Testing and Other Safety Design Considerations," Tuthill Corporation, Product Safety Committee Meeting, Westmont, IL September 26, 1990.
218. Seminar: "Principles of Safety and Ergonomics Related to Paper Converting Machinery," Engineering Division of 3 M Company, St. Paul, Minnesota, October 2, 1990.
219. Seminar: "Aspects of Design Philosophy & Ergonomics," The Manufacturing Institute, Chicago, Illinois, October 29, 1990.
220. Symposium: "Product Integrity to Increase Profits," The Manufacturing Productivity Center of Illinois Institute of Technology, Chicago, Illinois, November 1, 1990.
- 221.* Interview: "Man at Work: Ralph Barnett," Interview with reporter from the Catalyst, Illinois Institute of Technology, Chicago, Illinois, Winter 1990/91 issue.
222. Seminar: "Electrical Interlock Safety Study Presentation", Society of Plastic Industries, McCormick Place, Chicago, Illinois, June 18, 1991.
223. Television Interview: "Z.O.R.O. (Zero Obstruction Repair Overpass)" by Roz Veran of NBC News, WMAQ-TV, Chicago, Illinois 5:00 p.m., June 25, 1991.
224. Seminar: "Fault Tree Analysis in Safety and Forensic Engineering," Construction Industry Manufacturers Association 1991 Product Safety and Technical Seminar, Nashville, Tennessee, October 3, 1991.
225. Guest Lecturer: "Safety Engineering Fundamentals," University of Minnesota, School of Public Health, Division of Environmental and Occupational Health, Department of Agricultural Engineering, Winter Quarter 1992, January 22, 1992.
226. Guest Speaker: "Safety Theorems Including Uniform Safety and Doctrine of Manifest Danger" Long-Airdox Co. 1992 Sales Conference, Oak Hill, West Virginia, February 11, 1992.

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- 227.* Seminar: "Safety and Ergonomics of Commercial Kitchen Equipment," Delfield Company, Mt. Pleasant, Michigan, July 28, 1992.
- 228. Guest Speaker: "The Doctrine of Manifest Danger," Construction Industry Manufacturers Association's 1992 Product Safety Seminar (CIMA), Oak Brook, Illinois, October 8, 1992.
- 229. Guest Speaker: "The Doctrine of Manifest Danger and Its Relationship to Reliability, Preventative Maintenance and Fail-Safe Design," American Society of Mechanical Engineers 1993 Design Technical Conference, Albuquerque, New Mexico, September 20, 1993.
- 230. Seminar: "Safety and Industrial Human Factors," Liberty Mutual Insurance Company (Loss Control Seminar), November 2, 1993, Niles, Illinois.
- 231. Presentation: "Confluence of the Irrational," the 114th Winter Annual Meeting of the American Society of Mechanical Engineers, December 1, 1993, New Orleans, Louisiana.
- 232. Seminar: "Anatomy of A Warning: When to Warn," and "The Principle of Uniform Safety," ABA National Institute Product Warnings, Instructions and User Information, Washington, DC, January 20-21, 1994.
- 233. Seminar: "The Principle of Uniform Safety," CIMA 1994 Product Safety Seminar, Haines City, Florida, March 24, 1994.
- 234.* Seminar: "Tales From the Front and An Expert's View of How This Resource Can Best Be Utilized," The Young Lawyers Section of the Chicago Bar Association, Product Liability Seminar, October 17, 1994, Chicago, Illinois.
- 235.* Panelist: "Should 'PE' Be Required in Universities and in Industry," American Society of Mechanical Engineers Winter Annual Meeting, November 9, 1994, Chicago, Illinois.
- 236.* Seminar: "Reducing Exposure to Liability in the Preproduction or Design of Equipment," NPES 1994 Product Safety Seminar, Chicago, Illinois, November 30, 1994.
- 237.* Workshop: "Ladder Safety Research Workshop," National Institute for Occupational Safety and Health, Morgantown, West Virginia, August 1 - 2, 1995.
- 238. Guest Speaker: "Advanced Concepts in Codes and Standards," American Ladder

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Institute Annual Fall Meeting, Washington, D.C., September 12, 1995.

239. Guest Speaker: "The Impact of Safety Philosophy on Design Engineering," Outboard Marine Corporation Engineering Seminar, Gurnee, IL, Nov. 1, 1995.
240. Presentation: Barnett, Ralph L. and Schmid, Steven R., "Application of the Safeguard Evaluation Protocol," American Society of Mechanical Engineers, Winter Annual Meeting, New York, NY, November, 1995.
241. Guest Speaker: "Integrating of Safety into the Design Process" Safety and Design Engineering: An Integrated Approach organized by the American Society of Mechanical Engineers, Chicago, Illinois, March 18, 1996.
242. Guest Speaker: "Integration of Safety Into Design", Integrating Safety Through Design Symposium, National Safety Council, Bloomingdale, Illinois, September 17, 1996.
243. Guest Speaker: "Computer Aided Safety Information System and Advances in Warning Sign Philosophy," American Bar Association National Institute Failure to Warn Seminar, September 23, 1996, Washington, D.C.
244. Guest Speaker: "Small Manufacturing Firm - Safety, Ethics and Liability", National Design Engineering Conference, ASME, Evanston, Illinois, March 10, 1997.
245. Seminar: "Safety Philosophy", Federal Signal Corp., Governors State University, University Park, Illinois, March 12, 1997.
- 246.* National Safety Council Interview, Today's Supervisor, "Take Ladder Safety One Rung at a Time," Tapas, Tina D., March 1997.
- 247.* Television Interview: "WD-40:" Exploding Cans, Extra Show, May 1997.
248. "Patents: Restoring Safety," American Society of Mechanical Engineers 13th Biennial Reliability, Stress Analysis and Failure Prevention Conference, Las Vegas, NV, September 15, 1999.
249. "Ladder Slide Out - First Order Analysis," American Society of Mechanical Engineers 13th Biennial Reliability, Stress Analysis and Failure Prevention Conference, Las Vegas, NV, September 15, 1999.
250. "Vehicle Lifts: The Hyperstatic Problem," American Society of Mechanical Engineers 13th Biennial Reliability, Stress Analysis and Failure Prevention

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Conference, Las Vegas, NV, September 15, 1999.

251. "The Float Scaffold," American Society of Mechanical Engineers 1999 International Mechanical Engineering Congress & Exposition, Nashville, TN, November 15, 1999.
252. "A New Interlock System: Movable Interlocked Barrier Guards with Motorized Openers," American Society of Mechanical Engineers 1999 International Mechanical Engineering Congress & Exposition, Nashville, TN, November 15, 1999.
252. "Anti-Hair Entanglement-Cantilevered Grating Elements," American Society of Mechanical Engineers 1999 International Mechanical Engineering Congress & Exposition, Nashville, TN, November 15, 1999.
253. "Snap-Lock Beads Danger Analysis," American Society of Mechanical Engineers 1999 International Mechanical Engineering Congress & Exposition, Nashville, TN, November 15, 1999.
254. "Power Transmission Safety Standards," American Society of Mechanical Engineers 2000 International Mechanical Engineering Congress & Exposition, September 2000.
255. "Ergonomics: Five Design Theorems," CIMA, What is Your Weakest Link? Increase Safety - - Reduce Product Liability IV, Milwaukee, WI, August 5 - 7, 2001.
256. "Safety Potpourri," CIMA, What is Your Weakest Link? Increase Safety - - Reduce Product Liability IV, Milwaukee, WI, August 5 - 7, 2001.
257. "Product Liability From an Engineering Point of View," Guest Lecturer, General Engineering 300, Valparaiso University, November 13, 2001.
258. Mock Trial Defense Expert - Vincent v Saturn Ind., Masters-In-Trial, American Board of Trial Advocates, Chicago, IL, June 28, 2002.
259. "The World of Ladder Safety," Guest Speaker, American Ladder Institute, 2004 ALI Conference, Chicago, IL, September 20, 2004.
260. "Infant Pull Strength - Ability to Dislodge Crib Sheets," ASTM Section F15.19 Infant Bedding and Related Accessories, ASTM Headquarters, West Conshohocken, PA, March 9, 2005.

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261. "Extreme Value Formulation of Human Slip - A Summary," XIX Annual International Society for Occupational Ergonomics and Safety (ISOES) Conference, Las Vegas, NV, June 28, 2005.
262. "Standards - Impact and Impotence," XIX Annual International Society for Occupational Ergonomics and Safety (ISOES) Conference, Las Vegas, NV, June 28, 2005.
263. "Sloped Surfaces - Ladder Slide Out," XIX Annual International Society for Occupational Ergonomics and Safety (ISOES) Conference, Las Vegas, NV, June 28, 2005.

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1. Barnett, R.L., "Influence Diagrams for Statically Determinate Structures," Civil Engineering v. 27 # 10 (October 1957): 81-2.
2. Barnett, R.L., "Prestressed Truss Beams," ASCE Transactions 1960. v. 124 (1959): 472-90. Note: This paper received the Collingwood Prize for 1960.
3. Barnett, R.L., Discussion on "Properties of Steel and Concrete and the Behavior of Structures," Journal of the Structural Division, ASCE v. 86 # ST6 (June 1960): 161-62.
4. Barnett, R.L., "Minimum Weight Design of Beams for Deflection," ASCE Transactions, v. 128 Part 1: Paper # 3411 (1963): 221-55.
5. Barnett, R.L. and A. Humphreys, "Design for Minimum Weight," Materials in Design Engineering, v. 55 # 1 (January 1962): 83-85.
6. Barnett, R.L., "On the Lifting Capacity of Crane Booms," ASME Paper # 62-WA-43, November 1962.
7. Barnett, R.L., "Selection of Materials in Minimum Weight Design," ASME Paper # 63-MD-25, May 1963.
8. Barnett, R.L., "Minimum Deflection Design of a Uniformly Accelerating Cantilever Beam," Brief Note, Journal of Applied Mechanics v. 30 Series E # 3 (September 1963): 466-67.
9. Barnett, R.L., "Minimum Cost Design," Frontier (Summer 1963): 26-29 and Arts and Architecture (November 1963): 15, 41.

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10. Barnett, R.L. and K.E. Hofer, "Strength Analysis of Joints in Brittle Materials," 9th National Symposium, Society of Aerospace Materials and Processing Engineers. Paper # VI-3, November 1965.
11. Barnett, R.L. and P.C. Hermann, "Proof Testing in Design with Brittle Materials," J.J. Spacecraft & Rockets v. 2 # 6 (November-December 1965).
12. Barnett, R.L., "Minimum Weight Design," Frontier (Spring 1966).
13. About Barnett, R.L., by N.P. Chironis, "Odd Shapes and Materials Save Weight in Structures," Product Engineering v. 37 # 18 (August 29, 1966): 96-102.
14. Barnett, R.L. and R.L. McGuire, "Statistical Approach to Analysis and Design of Ceramic Structures," American Ceramic Society Bulletin, v. 45 # 6 (June 1966): 595-602.
15. Barnett, R.L., J.F. Costello, and P.C. Hermann, "The Odds Against Fracture (Predicting Strength of Brittle Structures)," Machine Design, v. 38 # 26 (November 10, 1966): 184-91.
16. Barnett, R.L., "Survey of Optimum Structural Design," Experimental Mechanics v. 6 # 12 (December 1966): 19a-26a.
17. Barnett, R.L., et al., "Structural Plastics: Properties and Problems," Journal of the Structural Division, ASCE v. 93 # ST1 (February 1967): 373-80.
18. Barnett, R.L., "Design of Statically Determinate Trusses for Minimum Weight and Deflection," Proc. 1968 Aviation and Space Conference, (June 1968).
19. Barnett, R.L., "Optimum Prestressed Tubular Columns," Journal of the Structural Division, ASCE v. 96 # ST2 (February 1970): 291-307.
20. Barnett, R.L., et al., "Fatigue Characteristics of Selected Plastics," Journal of the Structural Division, ASCE v. 96 ST7 (July 1970): 1567-69.
21. "ASME Code and Product Liability: Should Compliance Create a Rebuttable Presumption of Proper Design?," a Discussion in Critical Issues in Materials and Mechanical Engineering: PVP v. 47, Proceedings of the Symposium on Critical Materials and Fabrication Issues for Pressure Vessels, Piping, Pumps, and Valves, San Francisco, CA August 12-15, 1980, 224-225.
- 22a. Barnett, R.L. and P. Barroso Jr., "On Classification of Safeguard Devices -

Intrinsic Classification," Proceedings of the 37th National Conference on Fluid Power, v. 35, (October 21-23, 1981): 313-316.

- b. Triodyne Safety Brief v. 1 # 1 (April 1981).
 - c. Society of Automotive Engineers - Seminar Series, September 12-13, 1983.
 - d. Society of Automotive Engineers - Seminar Series, November 3, 1983.
 - e. Society of Automotive Engineers - Seminar Series, February 28, 1984.
 - f. Society of Automotive Engineers - Seminar Series, May 22, 1984.
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